PTO/SB/17 (12-04)
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

FEE TRANSMITTAL for FY 2005

Patent fees are subject to annual revision.
Effective December 8, 2004

TOTAL AMOUNT OF PAYMENT ($)500

Complete if Known	
Application Number	10/657,320
Confirmation Number	1187
Filing Date	September 8, 2003
First Named Inventor	Nicholas James Nissing
Examiner Name	Patricia L. Nordmeyer
Art Unit	1772
Attorney Docket No.	8652C

METHOD OF PAYMENT

1. [X] The Director is hereby authorized to charge indicated fees submitted on this form, credit any over payments, and charge any additional fee(s) during the pendency of this application to:

Deposit Account Number: **16-2480**
Deposit Account Name: **The Procter & Gamble Company**

FEE CALCULATION

2. BASIC FILING FEE – Large Entity

Application Type	FILING FEE	SEARCH FEE	EXAMINATION FEE		Fee Paid
Utility	($300)	($500)	($200)	(Total = $1000)	[]
Design	($200)	($100)	($130)	(Total = $430)	[]
Reissue	($300)	($500)	($600)	(Total = $1400)	[]
Provisional filing fee				(Total = $200)	[]

3. APPLICATION SIZE FEE:

Sheets of Spec and Drawings []
($250 for each 50 sheets in excess of 100, except for sequence and program listings)

SUBTOTAL (2)+(3) ($)[]

4. EXTRA CLAIM FEES FOR UTILITY AND REISSUE:

	Extra Claims		Fee from Below		Fee Paid
Total Claims	[] - 20** =	[] x	[]	=	[]
Independent Claims	[] - 3** =	[] x	[]	=	[]
Multiple Dependent claims:			[]	=	[]

** or number previously paid, if greater; For Reissues, see below

Fee Description
Claims in excess of 20 ($50 per claim)
Independent claims in excess of 3 ($200 per claim)
Multiple dependent claim, if not paid ($360)
**Reissue: each independent claim over 3 and more than in the original patent ($200 per claim)
**Reissue claims: each claim over 20 and more than original patent ($50 per claim)

SUBTOTAL (4) ($)[]

FEE CALCULATION (continued)

5. ADDITIONAL FEES

Fee Description		Fee Paid
Extension for reply within 1st month	($120)	[]
Extension for reply within 2nd month	($450)	[]
Extension for reply within 3rd month	($1,020)	[]
Extension for reply within 4th month	($1,590)	[]
Extension for reply within 5th month	($2,160)	[]
Information Disclosure Statement fee	($180)	[]
37 CFR 1.16(f) Late Oath/Declaration (nonprovisional)	($130)	[]
37 CFR 1.17 (g) Surcharge - Late provisional filing fee or cover sheet	($50)	[]
Non-English specification	($130)	[]
Notice of Appeal	($500)	[]
Filing a brief in support of an appeal	($500)	[X]
Request for oral hearing	($1,000)	[]
Acceptance of unintentionally delayed claim for priority under 35 U.S.C. 119, 120, 121, or 365 (a) or (c)	($1,370)	[]
Other: _____		[]

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JUN 23 2005

SUBTOTAL(5) ($) [500]

SUBMITTED BY				Complete (if applicable)	
Name (Print/Type)	Stephen T. Murphy	Registration No. (Attorney/Agent)	42,917	Telephone	(513) 634-4268
Signature				Date	22 June 2005

Procter & Gamble – I.P. Division

FACSIMILE TRANSMITTAL SHEET AND

CERTIFICATE OF TRANSMISSION UNDER 37 CFR 1.8

TO: **Commissioner for Patents - United States Patent and Trademark Office**

Fax No. 703-872-9306 Phone No. 571-272-1188

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office on June 22, 2005, to the above-identified facsimile number.

Teresa A. Wert (Signature)

FROM: **Teresa A. Wert (Office of Stephen T. Murphy)**

Fax No. 513-634-3612 Phone No. 513-634-3114

Listed below are the item(s) being submitted with this Certificate of Transmission:**

1) Fee Transmittal Sheet (1 pg.)
2) Appeal Brief (13 pgs.)
3)
4)
5)

Number of Pages Including this Page: 15

Inventor(s): Nicholas James Nissing
S.N.: 10/657,320
Filed: September 8, 2003
Docket No.: 8652C

Comments:

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Teresa A. Wurt — N/A
Name — Registration No (if applicable)

Signature

June 22, 2005
Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	10/657,320
Applicant	:	Nicholas James Nissing
Filed	:	September 8, 2003
Title	:	PRINTED SUBSTRATE WITH VARIABLE LOCAL ATTRIBUTES
TC/A.U.	:	1772
Examiner	:	Patricia L. Nordmeyer
Conf. No.	:	1187
Docket No.	:	8652C
Customer No.	:	27752

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir,

This Brief is filed pursuant to the appeal from the U.S. Patent and Trademark Office final rejection mailed December 23, 2004. A timely Notice of Appeal was filed on April 25, 2005.

REAL PARTY IN INTEREST

The real party in interest is The Procter & Gamble Company of Cincinnati, Ohio.

RELATED APPEALS AND INTERFERENCES

There are no known related appeals, interferences, or judicial proceedings.

STATUS OF CLAIMS

Claims 1 to 15 are rejected.

The rejection of Claims 1 to 15 is appealed.

A complete copy of the appealed claims is set forth in the Claims Appendix attached herein.

STATUS OF AMENDMENTS

No amendment was filed.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to a printed substrate having microscopic color density variation.

Claim 1 relates to printed substrates that have microscopic color density variation. The substrate has indicia on at least one of its outer surfaces, where the indicia is comprised of print elements. As seen in Figure 1A and 1B, the printed substrate of the present invention (700) includes three separate color densities: a substrate color density (400), a background color density (300), and a print element color density (200). The background color density is greater than the substrate color density and less than the print element color density. Typical printing substrates (600) have only two color densities, the substrate color density (400) where no ink is printed, and the print element color density (200) where the ink is printed. (Specification Page 5, Line 21).

The printed substrates having these three color densities provide either 1) images with higher ink densities while using standard inks at standard ink laydowns and having standard ink rub off characteristics or 2) images with the same ink densities as standard printing but using lower levels of standard inks and getting reduced levels of ink rub off.

As defined in the present invention, color density is the logarithmic relationship between incident light and reflected light, $D = \log_{10} I/R$. (page 3, line 42). This measures the microscopic ink density, independent of components of macroscopic color density such as the size or frequency of individual print elements. (page 3, lines 4-12) One specific benefit of the present invention is the variation of a given print region withoug a change in the size or frequency of individual print elements.

Claim 5 relates to printed disposable paper products comprising a substrate having at least one of its outer surfaces include ink applied thereto. The ink is comprised of at

least two solid print regions and wherein the color density ratio between the two solid print regions is at least about 1.15. (Specification at Page 19, Line 8).

Claim 8 relates to printed disposable paper products comprising a substrate having at least one of its outer surfaces include ink applied thereto. The ink comprised of at least two print regions said two print regions exhibiting the same color and the same color density and wherein the two print regions have a rub-off ratio greater than 1.1. (Specification at Page 18, Line 9).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-3, 5, 6, 8, 10, 12, 14 and 15 have been rejected under 35 U.S.C. §102(b) as anticipated by Mowry, Jr. (U.S. Patent No. 5,853,197).

Claims 1-3, 5 and 10-14 have been rejected under 35 U.S.C. §102(b) as anticipated by Brugada (U.S. Patent No. 5,904,375).

Claims 4, 7 and 9 have been rejected under 35 U.S.C. §103 as being obvious over Mowry in view of Harris (U.S. Patent No. 5,871,615)

ARGUMENTS

Rejections Under 35 U.S.C. §102 Over Mowry

The Examiner has rejected Claims 1-3, 5, 6, 8, 10, 12, 14 and 15 as being anticipated by U.S. Pat. No. 5,853,197 issued to Mowry, Jr. et al. on December 29, 1998 ("Mowry"). Mowry relates to a security document comprising a variety of printed indicia combinations, each of which provide a different imaging convention known to prevent the copying of the document without notice. Each imaging convention is comprised of a specific selection of individual print elements (e.g. small and large dots, line segments, triangles, etc. (Mowry Col. 5, lines 46-64). The different arrays of dots and lines all react differently upon being seen by a color copier and as a result the copier can not create a perfect replica of the original document. All of these print elements are printed at the same desired print element ink color density on a substrate with a substrate color density.

Claims 1-3, 10, and 12

Claim 1, and claims depending therefrom, relate to printed substrates that have indicia having microscopic color density variation where the variation is characterized

such that the indicia has three separate color ink densities: a substrate color density, a background color density, and a print element color density. The background color density is greater than the substrate color density and less than the print element color density.

Nowhere in Mowry is the use of microscopic color density variation taught nor is it taught that a third color density of ink, a background color density, which is between the density of the substrate and that of the print element, should be applied to the substrate around the print elements as required in Claim 1 and dependent Claims 2, 3, 10, and 12 of the present application. In fact, the application of such a third density in the article of Mowry would result in the activation of the security notification (e.g. the word "VOID" in the figures of Mowry), because the particular geometric relationships critical in Mowry would be altered by the background ink.

The Examiner indicates that a third ink density is not recited in the rejected claims. Applicant submits that this is clearly incorrect given that Claim 1 calls for (1) a substrate color density, (2) a print element color density and (3) a background color density that is not present in Mowry. The Examiner also indicates that the densities referred to in the claims are not directed toward ink densities. The specification clearly explains that the density elements of the claims are directed toward the density of the respective elements, including the ink. "Print element color density" is defined as the color density of each individual print element within the image area of the printed substrate. (Specification Page 5, Line 1). "Background color density" is defined as the color density surrounding each individual print element. (Specification Page 5, Line 15). A "print element" is defined as an individual indicium such as a halftone dot. (Specification Page 4, Line21). The presence of the third microscopic color density, the background density, resulting from the microscopic variation in ink density distinguishes the indicia of the present invention from Mowry. A "microscopic region" is defined in to be approximately the size of an individual print element, which may be the size of a halftone dot.

The Examiner indicates that the three different densities are shown by Mowry through the use of dots, lines and spacing between elements. Applicant submits that this

is an incorrect application of the color density of the present invention. The creation of multiple apparent densities to a viewer through the use of dots, lines and spacing is a variation in densities in macroscopic regions and not microscopic regions. A "macroscopic region" is defined in the specification as any region which can be resolved by the naked human eye at a distance of about 0.8 meters or greater. It is clear that variation of macroscopic image densities, without the variation of microscopic densities, as is the case in Mowry, does not teach the microscopic color variation to create a new background density of the present invention.

In order to be held to be invalid as being anticipated, all of the elements and limitations of the claim must be described in a single reference. Merck & Co., Inc. v. Teva Pharmaceuticals USA, Inc., 347 F.3d 1367, 68 U.S.P.Q.2d 1857 (Fed. Cir. 2003). Applicant respectfully submits that since Mowry does not teach microscopic color density of variation of Claim 1 nor does it teach the background color density of Claim 1, for use in its printed article, Mowry does not anticipate Claim 1 nor dependent Claims 2, 3, 10, and 12 of the present invention. Therefore, Applicant submits that the rejection of Claims 1, 2, 3, 10, and 12 of the present invention under §102(b) as being anticipated by Mowry is erroneous and should be overturned.

Claims 5, 6, and 15

Claim 5 and dependent claims 6 and 15 relate to printed disposable paper products comprising a substrate having ink applied to one of its outer surfaces such that the ink comprises at least two solid print regions where the color density ratio between the two solid print regions is at least about 1.15. (Specification at Page 19, Line 8). As discussed above, Mowry relates to documents comprising a variety of printed indicia combinations. The variety of printed indicia result in different visual appearance, including differentiated macroscopic densities.

Nowhere in Mowry is the use of solid regions have different color densities such that the color density ratio between the two solid print regions is at least 1.15. Applicant respectfully submits that since Mowry does not teach the solid color density ratio of Claim 5 for use in its printed article, Mowry does not anticipate Claim 5 nor dependent Claims 6 and 15 of the present invention. Therefore, Applicant submits that the rejection

of Claims 5, 6, and 15 of the present invention under §102(b) as being anticipated by Mowry is erroneous and should be overturned.

Claims 8 and 14

Claim 8 and dependent Claim 14 relate to printed disposable paper products comprising a substrate having ink applied to at least one of its outer surfaces such that the ink comprises of at least two print regions said two print regions exhibiting the same color and the same color density and wherein the two print regions have a rub-off ratio greater than 1.1. (Specification at Page 18, Line 9).

Nowhere in Mowry is the use of different print regions with the same color and color density where the different print regions have differing rub-off characteristics such that the rub-off ratio is greater than 1.1. Since Mowry does not teach the rub-off ratio of Claim 8 for use in its printed article, Mowry does not anticipate Claim 8 nor dependent Claim 14 of the present invention. Therefore, Applicant submits that the rejection of Claims 8 and 14 of the present invention under §102(b) as being anticipated by Mowry is erroneous and should be overturned.

Rejections Under 35 USC 102 Over Brugada

The Examiner has rejected Claims 1-3, 8 and 10-14 as being anticipated by U.S. Pat. No. 5,904,375 issued to Brugada on May 18, 1999 ("Brugada"). Brugada, like Mowry, also relates to security supports, including paper, comprising a micropattern of invisible microtext or microlines printed on the support. The elements of the micropattern are separated by distances smaller than the limit of resolution power of a copying machine. The microelements are printed on the substrate using a first ink, a nonabsorbent ink which is either transparent or the same color as the support (Col 2, line 26-45).

Claims 1-3 and 10-12

As discussed, Claim 1, and claims depending therefrom, relate to printed substrates that have indicia having microscopic color density variation where the variation is characterized such that the indicia has three separate color ink densities: a substrate color density, a background color density, and a print element color density.

Like Mowry, there is no teaching in Brugada of the use of a microscopic color density variation resulting in a background color density in the indicia of the substrate. In fact, the resulting virgin security paper in Brugada is designed to have only the support color density so the micropattern is not visible on the virgin sheet, even at a microscopic level. Since the virgin security paper of Brugada comprises only one color density, the substrate color density, it not only does not teach the background color density of the present invention but it also does not teach the print element color density which is distinct from the substrate color density. Claim 1 clearly requires a print element color density that is greater than a background color density, which in turn is greater than the substrate color density.

Since Brugada does not teach the microscopic color density variation of the present invention, nor three color densities which are different from each other, it does not anticipate Claim1 nor dependent Claims 2, 3, 10, 11 and 12

The Examiner indicates that "[t]hree different densities are shown in Brugada through the use of dots, lines and spacing between the elements. Applicant respectfully submit that no use of print elements are used in Brugada to create different densities on the Brugada substrate. The point of Brugada is to create a support of paper which is treated with imperceptible element, (i.e. transparent ink or ink which is the same color as the substrate). The substrate does has no more than one density, the substrate density.

Again, Applicant submits that since Brugada does not teach the background color density for use in its printed article, Brugada does not anticipate Claims 1, 2, 3, 10, 11, or 12 of the present invention. Therefore, Applicant submits that the rejection of these claims under §102(b) as being anticipated by Brugada is erroneous and should be withdrawn.

Claims 8, 13, and 14

Claim 8 and dependent Claims 13and 14 relate to printed disposable paper products comprising a substrate having ink applied to at least one of its outer surfaces such that the ink comprises of at least two print regions said two print regions exhibiting

the same color and the same color density and wherein the two print regions have a rub-off ratio greater than 1.1.

Nowhere in Brugada is the use of different print regions with the same color and color density where the different print regions have differing rub-off characteristics such that the rub-off ratio is greater than 1.1. Since Brugadad does not teach the rub-off ratio of Claim 8 for use in its printed article, Brugada does not anticipate Claim 8 nor dependent Claims 13 or 14 of the present invention. Therefore, Applicant submits that the rejection of Claims 8, 13 and 14 of the present invention under §102(b) as being anticipated by Brugadad is erroneous and should be overturned.

Rejections Under 35 USC 103(a) Over Mowry in view of Harris

The Examiner has rejected Claims 4, 7 and 9 under 35 USC 103(a) as being unpatentably obvious over Mowry in view of U.S. Pat. No. 5,871,615 issued to Harris on February 16, 1999 ("Harris"). Applicant respectfully submits that the combination of Mowry and Harris does not establish a *prima facie* case of obviousness because it does not teach or suggest all of Applicant's claim limitations.

Claim 4

Claim 4 relates to printed *textured* substrates that have indicia having microscopic color density variation where the variation is characterized such that the indicia has three separate color ink densities: a substrate color density, a background color density, and a print element color density.

As discussed above Mowry relates to a security document comprising a variety of printed indicia combinations, each of which provide a different imaging convention known to prevent the copying of the document with out notice. However, as pointed out, Mowry does not teach the microscopic color density variation nor the background color density of the present invention. Harris relates to a security paper that has been formed with a tactile surface profile which has been printed. (Col. 3, Line 58). The printing of Harris is done "using conventional methods such as litho, gravure, etc." using any of a variety of ink. However, nothing in Harris teaches or suggests that the printed image or indicia have microscopic color density variation which results in three color densities

including a background color density. The Examiner used Harris to provide a textured paper to be used in the security document of Mowry to introduce the textured element of Claim 4 of the present invention. However, Harris does not resolve the deficiencies of Mowry. Nowhere in the combined teaching of Mowry and Harris is there teaching or suggestion to print an indicia on a substrate such that the indicia has microscopic variation, and a resulting background color density according to Claim 4.

To establish a *prima facie* case of obviousness under 35 U.S.C. §103(a), the prior art reference or combination of references must teach or suggest all the claim limitations. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed Cir. 1991). Since Mowry does not teach the microscopic color density variation nor the background color density as required by Claim 4 of the present invention and Harris does not resolve this omission, the combination of Mowry and Harris does not teach all the claim limitations of Claim 4 of the present invention. Therefore, Applicant submits that Claim 4 of the present invention is unobvious over the combination of Mowry and Harris and the rejection of the claims under 35 U.S.C. §103(a) is erroneous and should be withdrawn.

Claim 7

Claim 7 relates to printed disposable paper products comprising a *textured* substrate having ink applied to one of its outer surfaces such that the ink comprises at least two solid print regions where the color density ratio between the two solid print regions is at least about 1.15. As discussed above, nowhere in Mowry is the use of solid regions having different color densities such that the color density ratio between the two solid print regions is at least 1.15 taught or suggested. Harris relates to a security paper that has been formed with a tactile surface profile which has been printed by conventional methods. However, nothing in Harris teaches or suggests that the use of an image or indicia which uses at least two solid regions having different color densities such that the color density ratio between the two solid print regions is at least 1.15. The Examiner used Harris to provide a textured paper to be used in the security document of Mowry to introduce the textured element of Claim 7 of the present invention. However, Harris does not resolve the deficiencies of Mowry. Nowhere in the combined teaching of Mowry and

Harris is there teaching or suggestion to two solid print area having a color density ratio of at least 1.15 required by Claim 7.

Since Mowry does not teach the use of solids having a color density ratio of at least 1.15 as required by Claim 7 of the present invention and Harris does not resolve this omission, the combination of Mowry and Harris does not teach all the claim limitation of Claim 7 of the present invention. Therefore, Applicant submits that Claim 7 of the present invention is unobvious over the combination of Mowry and Harris and the rejection of the claims under 35 U.S.C. §103(a) is erroneous and should be withdrawn.

Claim 9

Claim 9 relates to printed disposable paper products comprising a *textured* substrate having ink applied to at least one of its outer surfaces such that the ink comprises of at least two print regions said two print regions exhibiting the same color and the same color density and wherein the two print regions have a rub-off ratio greater than 1.1. As discussed above, nowhere in Mowry is the use of two regions having the same color, the sale color density where the two print regions have rub-off ratios greater than 1.1 taught or suggested. Harris relates to a security paper that has been formed with a tactile surface profile which has been printed by conventional methods. However, nothing in Harris teaches or suggests that the use of two regions having the same color, the sale color density where the two print regions have rub-off ratios greater than 1.1. The Examiner used Harris to provide a textured paper to be used in the security document of Mowry to introduce the textured element of Claim 9 of the present invention. However, Harris does not resolve the deficiencies of Mowry as related to the obviousness of Claim 9. Nowhere in the combined teaching of Mowry and Harris is there teaching or suggestion to two regions having the same color, the sale color density where the two print regions have rub-off ratios greater than 1.1required by Claim 9.

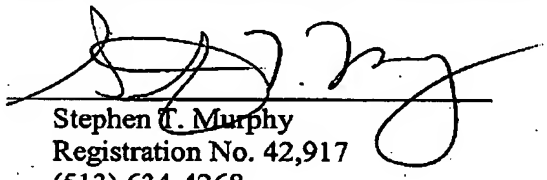
Since Mowry does not teach the use of two regions having the same color, the sale color density where the two print regions have rub-off ratios greater than 1.1 as required by Claim 9 of the present invention and Harris does not resolve this omission, the combination of Mowry and Harris does not teach all the claim limitation of Claim 9 of the present invention. Therefore, Applicant submits that Claim 7 of the present invention is

unobvious over the combination of Mowry and Harris and the rejection of the claims under 35 U.S.C. §103(a) is erroneous and should be withdrawn.

SUMMARY

In view of all of the above, it is respectfully submitted that .the rejections of Claims 1 to 15 are improper and should be overturned.

Respectfully submitted,
THE PROCTER & GAMBLE COMPANY



Stephen T. Murphy
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Date: June 22, 2005

Customer No. 27752

CLAIMS APPENDIX

1. (Rejected) A printed substrate having microscopic color density variation, said printed substrate comprising: a substrate having a first outer surface and a second outer surface opposed thereto, whereby at least one of said first or said second outer surface includes indicia, said indicia comprised of print elements and wherein said substrate includes a substrate color density, a background color density, and a print element color density wherein said background color density is greater than said substrate color density and less than said print element color density.

2. (Rejected) The printed substrate of Claim 1 wherein said substrate is an absorbent disposable paper product.

3. (Rejected) The printed substrate of Claim 1 further comprising a background ΔE of at least about 10.

4. (Rejected) The printed substrate of Claim 1 wherein said substrate is textured.

5. (Rejected) A printed disposable paper product, said printed disposable paper product comprising: a substrate having a first outer surface and a second outer surface opposed thereto, whereby at least one of said first or said second outer surface includes ink applied thereto, said ink comprised of at least two solid print regions and wherein the color density ratio between the at least two solid print regions is at least about 1.15.

6. (Rejected) The printed disposable paper product of Claim 5 wherein said two solid print regions have a dot area ratio of at least about 1.10

7. (Rejected) The printed disposable paper product of Claim 5 wherein said substrate is textured.

8. (Rejected) A printed disposable paper product, said printed disposable paper product comprising:

a substrate having a first outer surface and a second outer surface opposed thereto, whereby at least one of said first or said second outer surface includes ink applied thereto, said ink comprised of at least two print regions said two print regions exhibiting the same color and the same color density and wherein the two print regions have a rub-off ratio greater than 1.1.

9. (Rejected) The printed disposable paper product of Claim 8 wherein said substrate is textured.

10. (Rejected) The printed substrate of Claim 1 wherein said substrate is cellulosic, noncellulosic, or a combination thereof.

11. (Rejected) The printed substrate of Claim 1 wherein said indicia comprises a pigment based ink.

12. (Rejected) The printed substrate of Claim 1 wherein said indicia comprises a process print.

13. (Rejected) The printed disposable paper product of Claim 8 wherein said ink comprises a pigment.

14. (Rejected) The printed disposable paper product of Claim 8 wherein said ink comprises a process print.

15. (Rejected) The printed disposable paper product of Claim 5 wherein said at least two solid regions comprise line printing.